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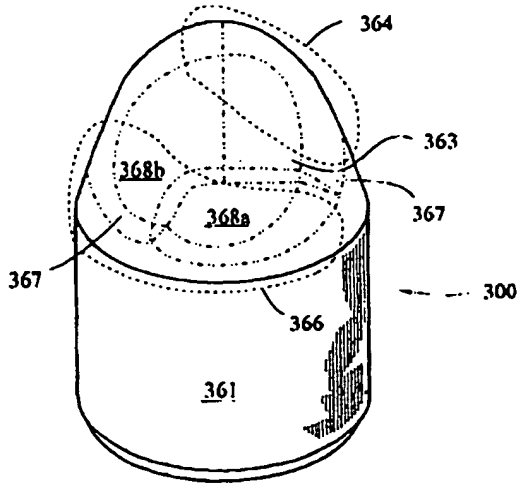
(71) Applicant(s)
Smith International Incorporated
(Incorporated in USA - Delaware)
PO Box 60068, 16740 Hardy Street, Houston,
Texas 77205-0068, United States of America

(72) Inventor(s)
Gary Ray Portwood
Scott D McDonough
Dennis Cisneros

(74) Agent and/or Address for Service
W H Beck, Greener & Co
7 Stone Buildings, Lincoln's Inn, LONDON, WC2A 3SZ,
United Kingdom

(54) Abstract Title
Cutter element adapted to withstand tensile stress

(57) A cutter element having a substantially flat wear face and leading compression and trailing tension zones, wherein the leading compression zone is sharper than the trailing tension zone. Sharpness is defined as either a smaller inside angle at the intersection of a pair of planes or as a smaller radius of curvature. The cutter element of the present invention experiences reduced stress on its trailing portion in the direction of cutting movement and therefore is less subject to extreme impact damage and cyclic fatigue. The present invention can be applied with particular advantage to heel row cutters, but can also be applied to cutters in other rows that primarily ream the borehole wall and cooperatively cut the borehole corner. The present cutter element can be constructed so as to have either a positive or negative rake angle at its leading compression zone, or to have any of a variety of shapes, depending on the characteristics of the formation in which it is to be used.



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